NWS Form E-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE **MONTHLY REPORT OF HYDROLOGIC CONDITIONS**	**HYDROLOGIC SERVICE AREA:** Pocatello, Idaho (PIH) **REPORT FOR:** **MONTH:** January **YEAR:** 2018
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	**SIGNATURE** Travis Wyatt Service Hydrologist / Acting **DATE:** February 18, 2018
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924).	

X **An X in this box indicates that *no* flooding has occurred for the month within this hydrologic service area.**

Overview:

Most of our area received received below normal precipitation, with most of the area receiving 25 to 90 perecent of normal precipitation. Our extreme Northwest and Northeast corners as well as the Eastern Magic Valley received 90 to 150 percent of normal.The five climate stations (Burley, Challis, Idaho Falls, Pocatello and Stanley) ranged from 0.20 inch of precipitation (-0.31 below average) for Challis to 2.23 inches of precipitation (0.71 above average) for Stanley. There were three precipitation records for the month of January for our five climate locations, two for Burley and one for Idaho Falls. The highest recorded monthly precipitation totals (non-SNOTEL and non-RAWS) were 3.37, 2.25, and 2.23 inches respectively at the Island Park CO-OP, Ashton CO-OP and the Stanley Ranger stations. The highest recorded 24-hr precipitation (non-SNOTEL and non-RAWS) occurred at the Island Park, Saint Anthony, and Driggs CO-OP stations where 1.30, 0.86, and 0.85 fell respectively on the 10th, 10th, and 12th respectively. Basins ranged from 52 to 122 percent of normal. The basins receiving the greatest precipitation were the Henrys Fork-Falls River, Snake abv Jackson, and the Henry's Fork abv Rexburg receiving 122%, 112%, and 111% of average precipitation respectively for the month of January-based on SNOTEL data. The basins receiving the least precipitation were the Cub River, Malad River, and the Big Lost abv Mackay receiving 52%, 65%, and 65% respectively for the month of January-based on SNOTEL data.

Mean average temperatures ranged from 17.8 degrees F for Island Park to 37.5 degrees F for Shoshone across the HSA. Most of the area was above 6 to 11 degrees above normal with Island Park area, Pahsimeroi, and Big Lost regions running 3 to 6 degrees above normal. The five climate stations ranged from 8.7 degree above normal for Stanley to 10.1 degrees above normal for Pocatello. There were eleven daily high temperature records for the month of January for our five climate locations: one in Burley, three in Idaho Falls, three in Pocatello (including an all-time high for the month January), and four in Stanley. Of the data available for the month, the stations (non-SNOTEL and non-RAWS) within the HSA reaching the highest 24-hour temperatures were Malta, Burley Airport, Minidoka Dam CO-OP, and Pocatello Airport reaching 63°F, 61°F, 61°F and 61°F respectively on the 31st , 30th, 31st and 30th respectively. The stations (non-SNOTEL and non-RAWS) with the lowest recorded temperature were the Island Park, Stanley, and Sugar City COOP stations at -16°F, -15°F, and -8°F all on the 2nd.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the eastern Idaho forecast is a 60 to 70% percent chance for below normal temperatures and a 40 percent chance for above normal

precipitation. The one-month forecast graphics are below. For the three-month outlook, the temperature forecast is a 33 percent chance to be above normal for our extreme southern areas and equal chances for above or below normal temperatures elsewhere. As for three-month outlook for precipitation, the outlook is a 33 to 40% percent chance for above normal for our northern areas and equal chances for above or below normal precipitation for our southern areas.

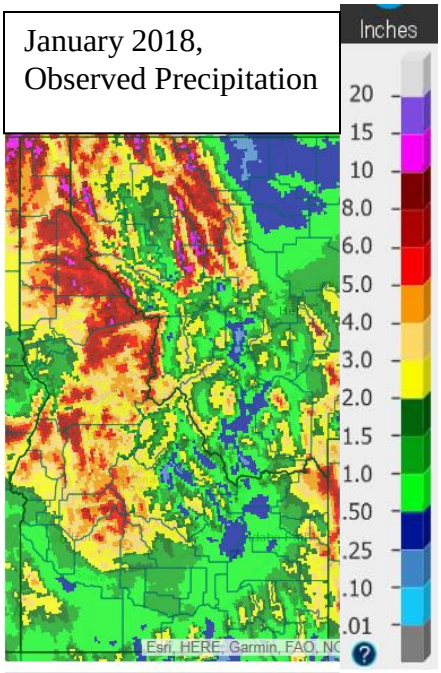
Storage for reservoirs in the Upper Snake River basin system for January remained the same over the month of November and December with streamflow above normal. As of February 15, 2018, the Upper Snake River system was sitting at 87% of capacity. Compared to last year at that time, it was about 63% of capacity. As of January 31, 2018, Oakley, Ririe, Mackay, Jackson, and Bear Lake had the lowest percent of average capacity at 47%, 58%, 77%, 78% and 78% of average respectively. As of February 15, 2018, Milner had 67% of average. All other reservoirs were at or above 81% capacity. All reservoirs as of January 31, 2018 were 103 % or higher above average for that time of year.

Current streamflow conditions are above normal for most of Eastern Idaho. Exceptions are: Cassia and Oneida Counties are normal, the Salmon River below Stanley as well as the Big Lost are much above normal, and the Snake river near Heise is high (see USGS streamflow graphic below).

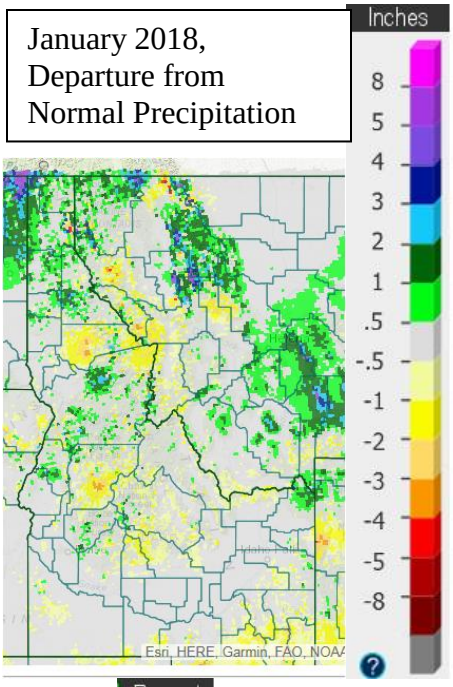
Southern Idaho is abnormally dry with a small area in our extreme Western Central Idaho listed in moderate drought (See image below).

Precipitation:

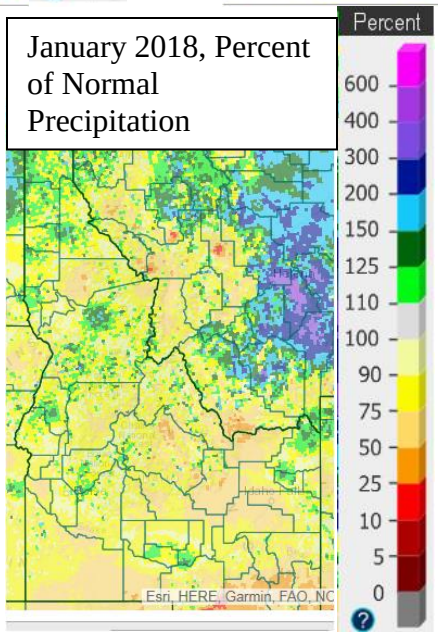
January 2018,
Observed Precipitation



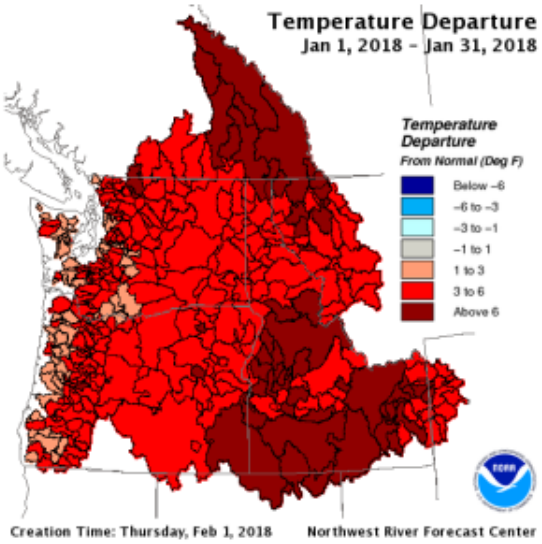
January 2018,
Departure from
Normal Precipitation

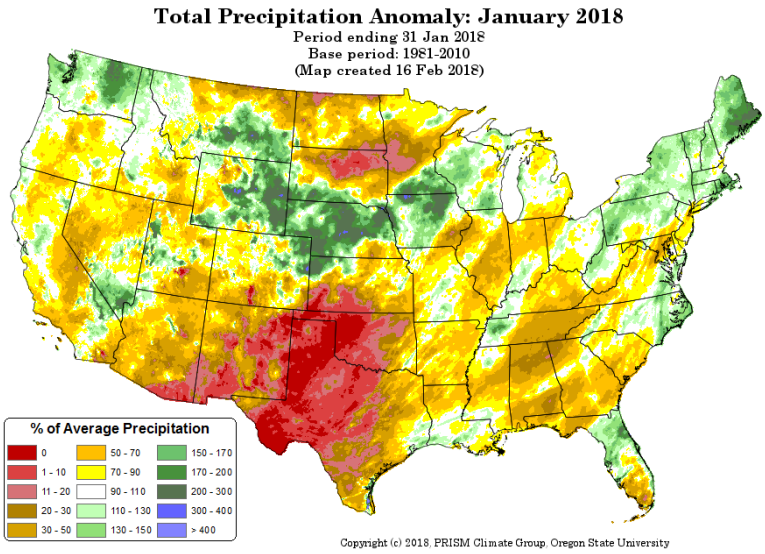


January 2018, Percent
of Normal
Precipitation



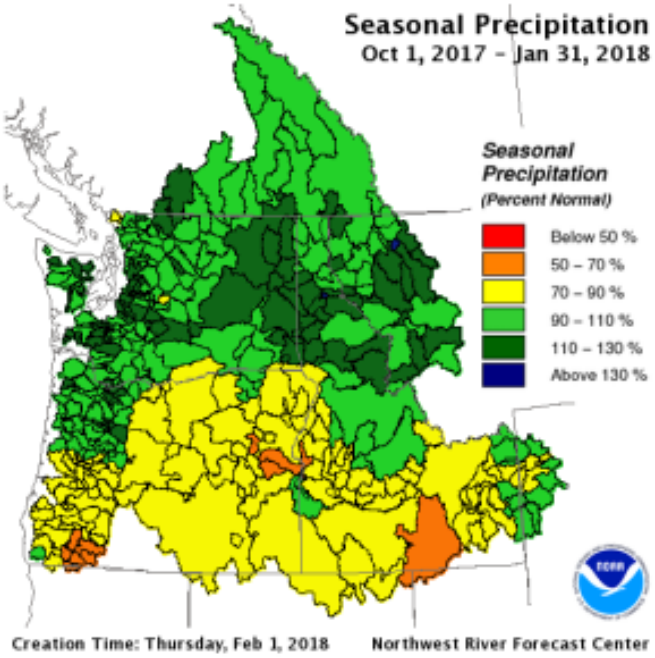
http://water.weather.gov/precip/

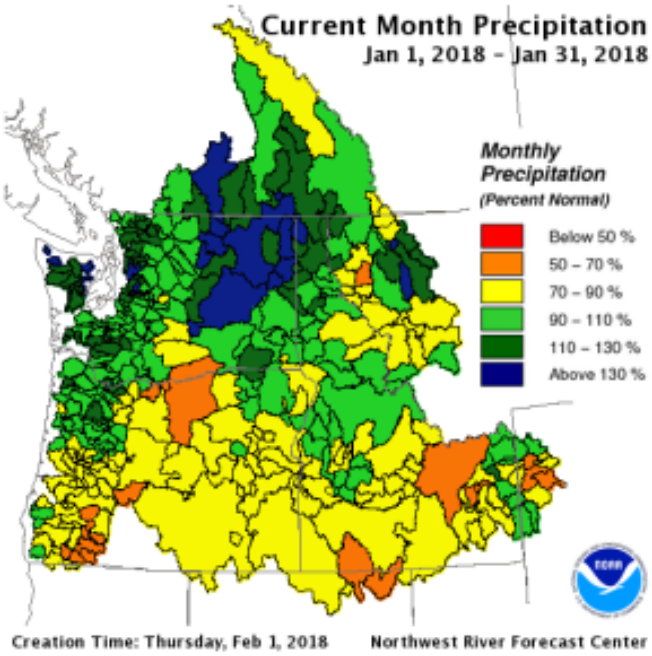




https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20180201/CurMonMAT_2018Jan31_2018020117.png

http://prism.oregonstate.edu/comparisons/anomalies.php

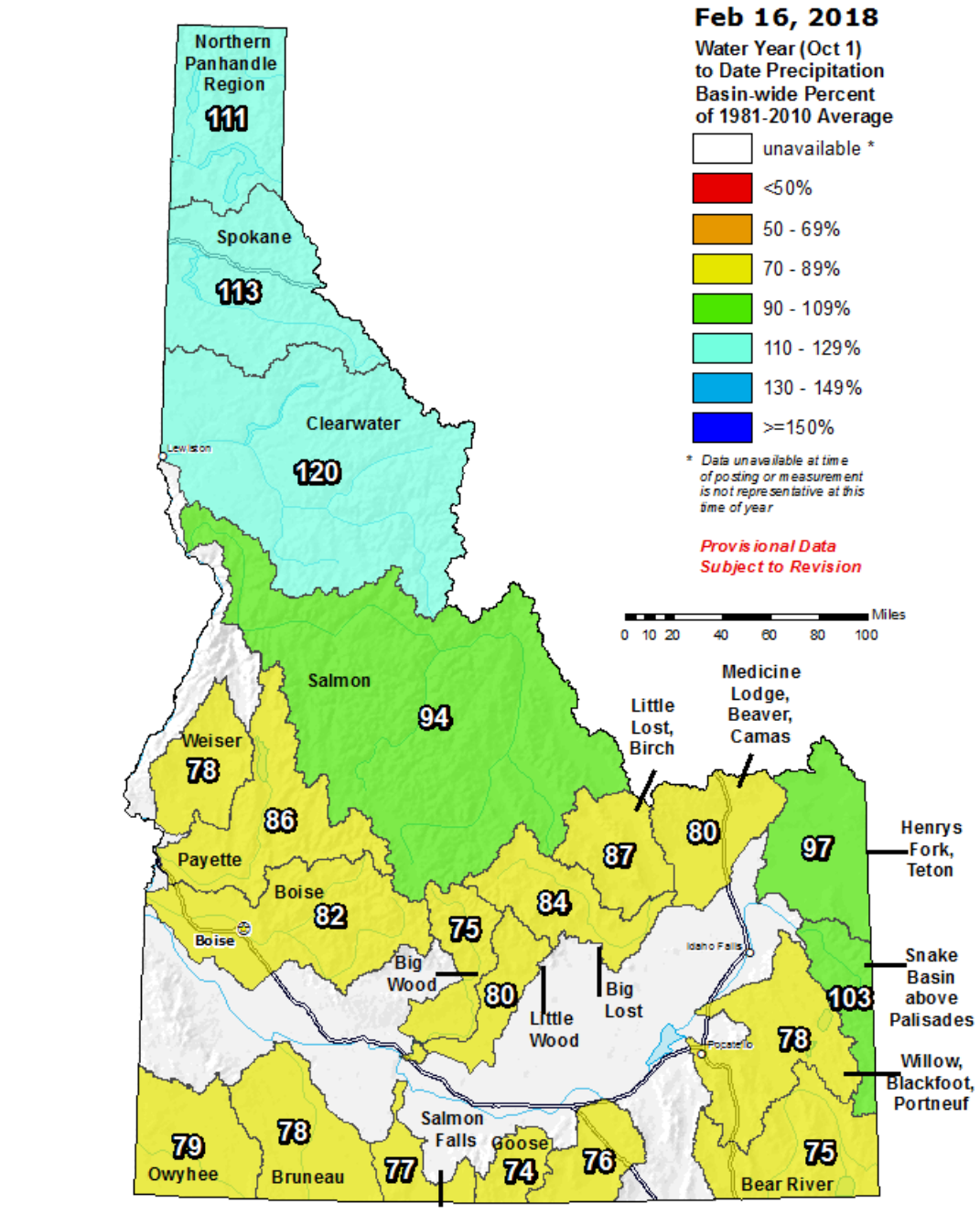




https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20180201/SeasonalMAP_2018Jan31_2018020117.png

https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20180201/CurMonMAP_2018Jan31_2018020117.png

Idaho SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal



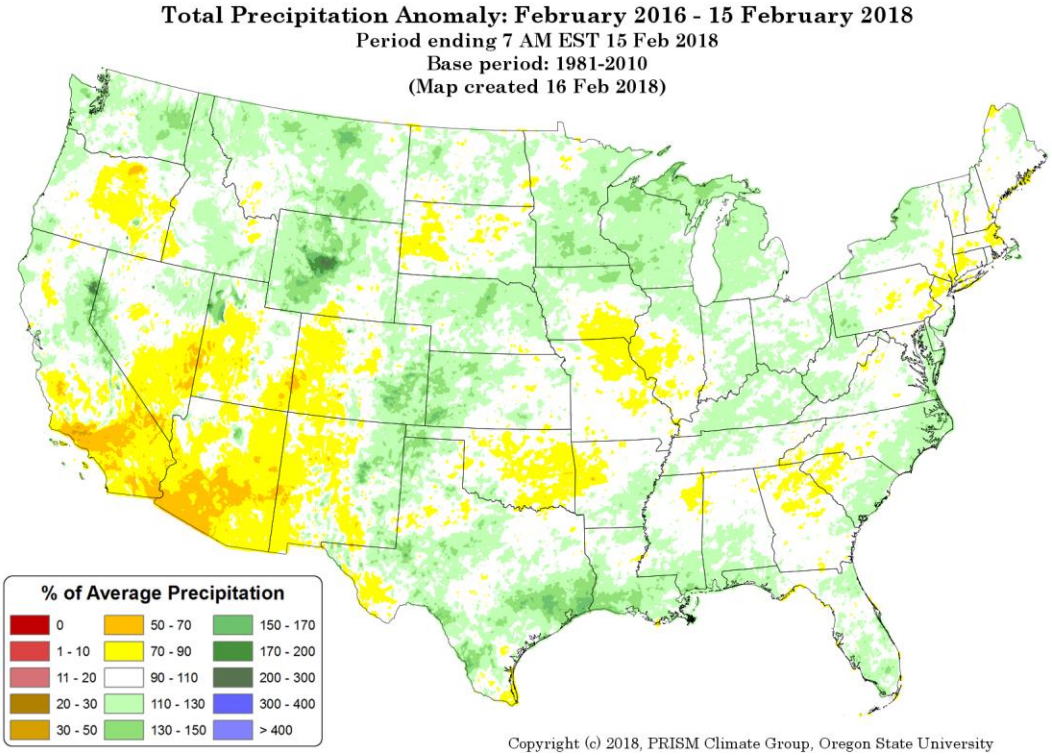
USDA NRCS

The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

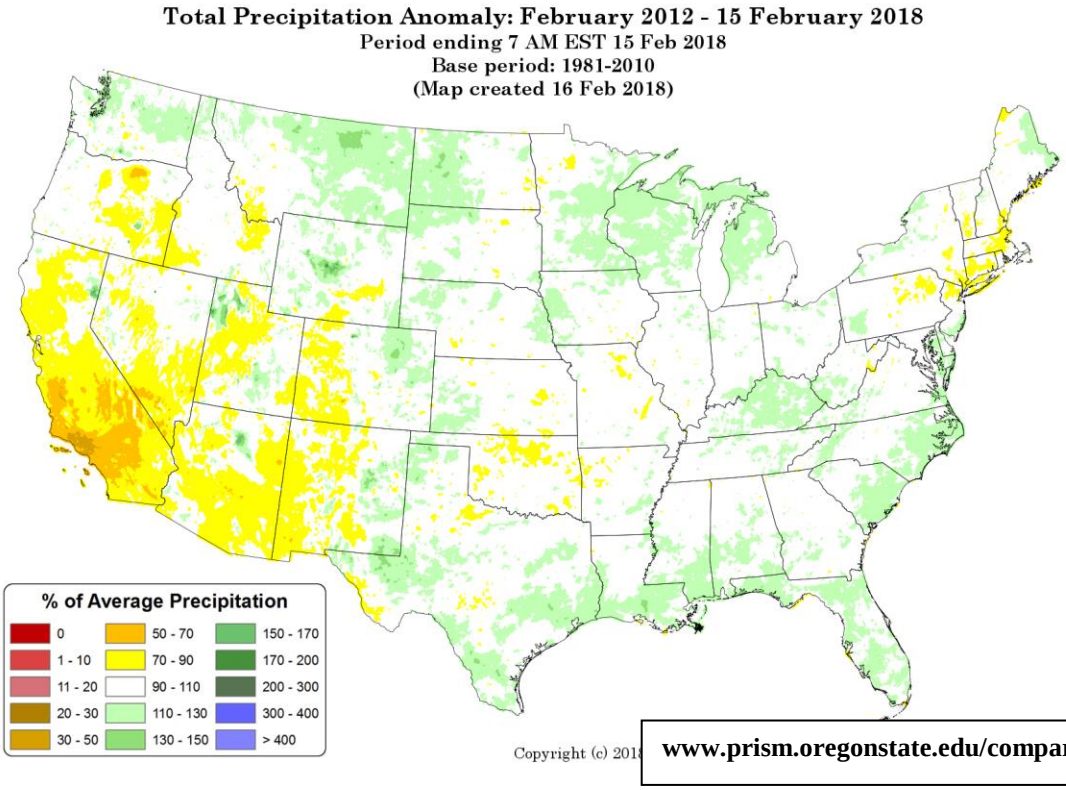
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf

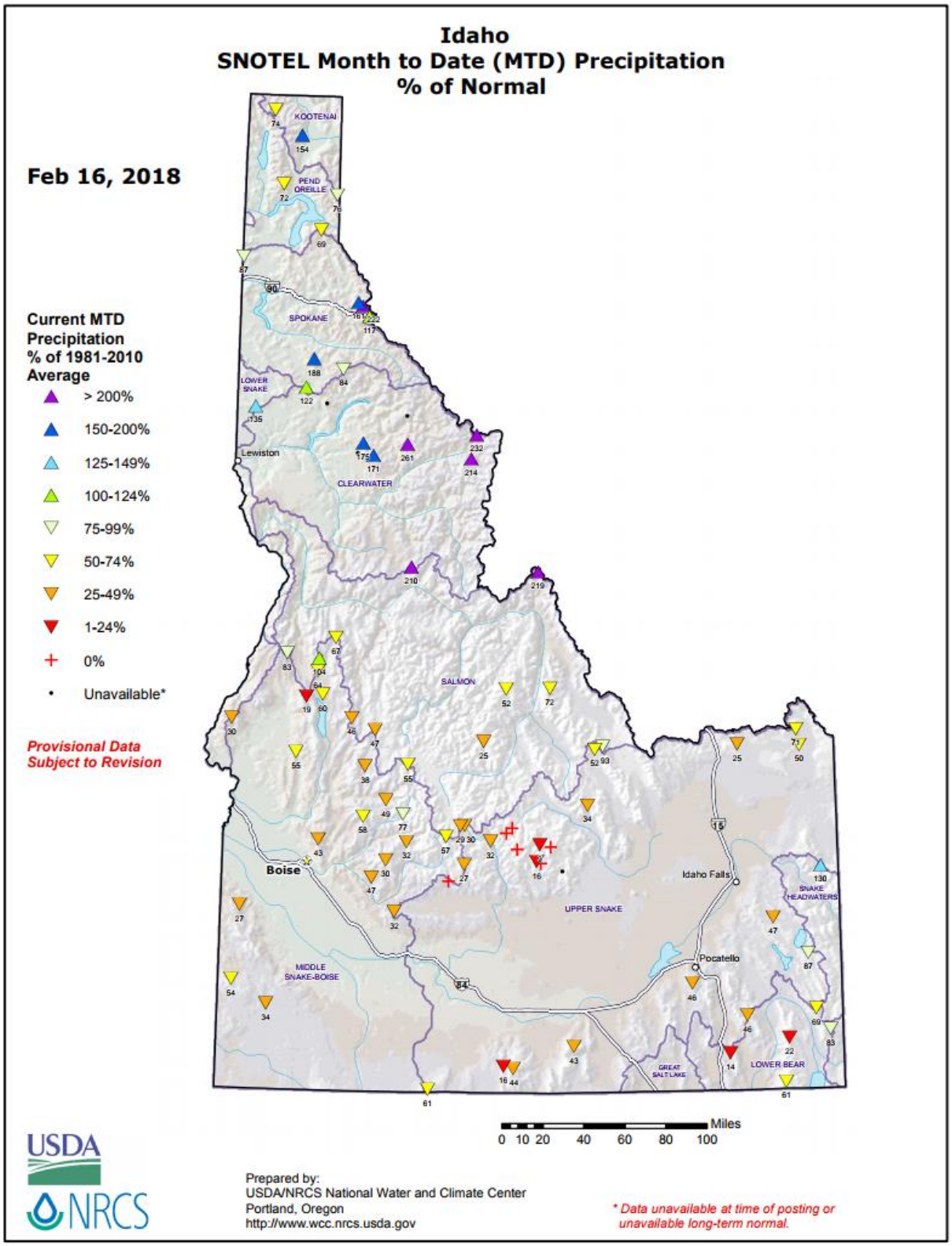
Past 2 Years of Precipitation % of Average:



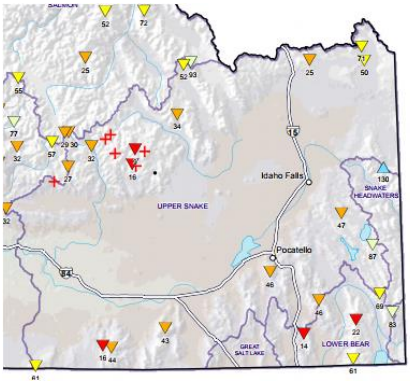
Past 6 Years of Precipitation % of Average:



www.prism.oregonstate.edu/comparisons/drought.php

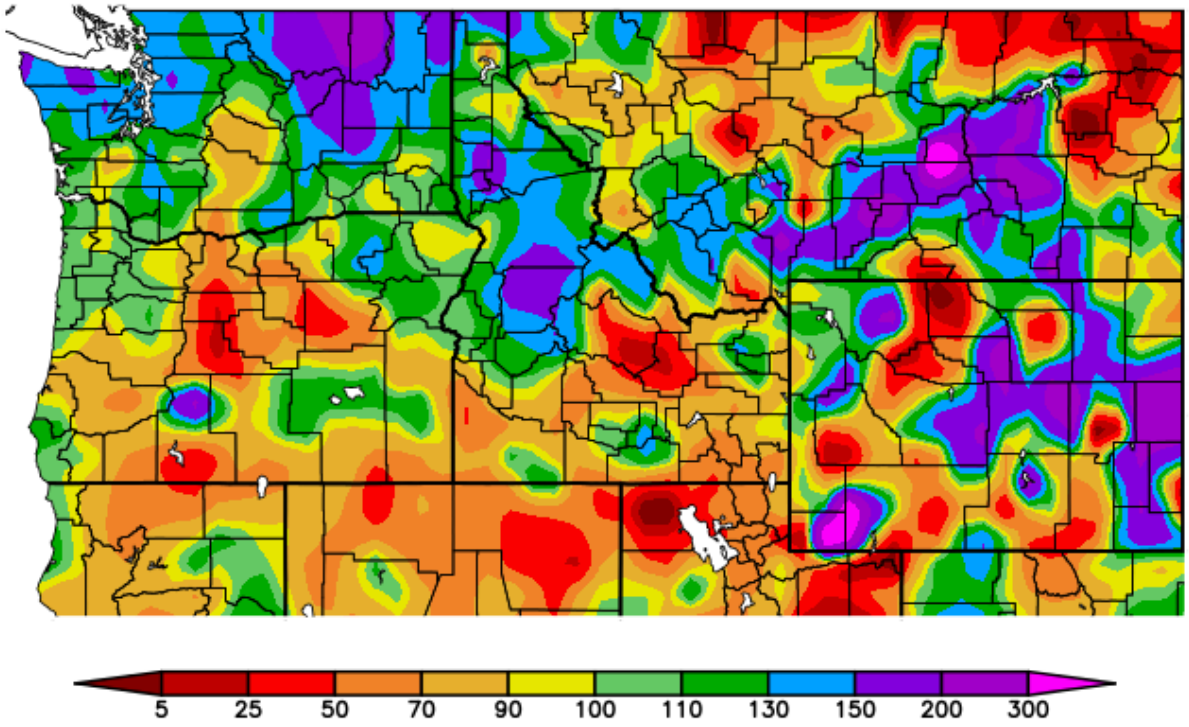


http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecpctnormal.pdf



SNOTEL MTD % of Normal Precipitation for thru Mid February 2018
(image is cropped from above image)

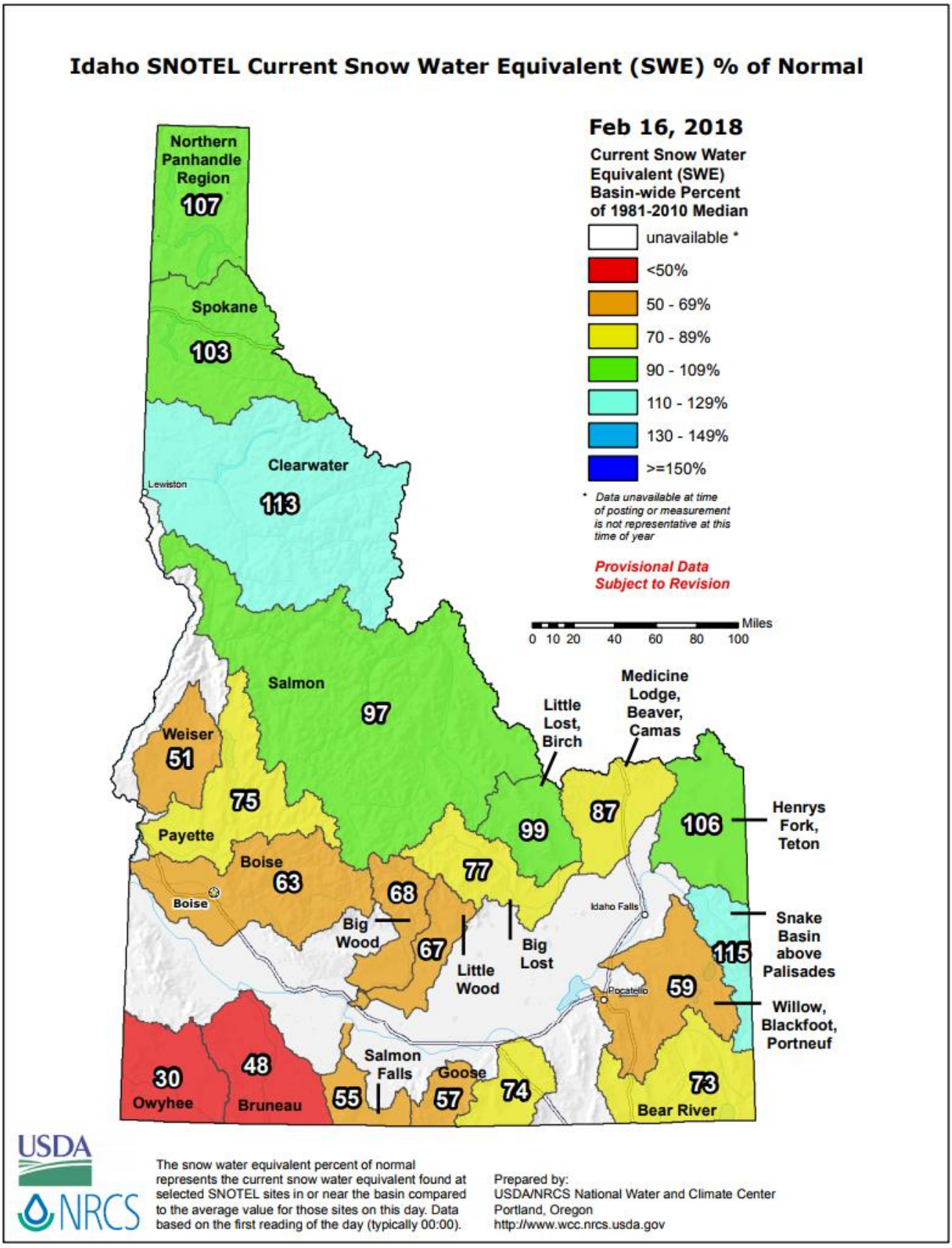
Percent of Normal Precipitation (%)
1/1/2018 – 1/31/2018



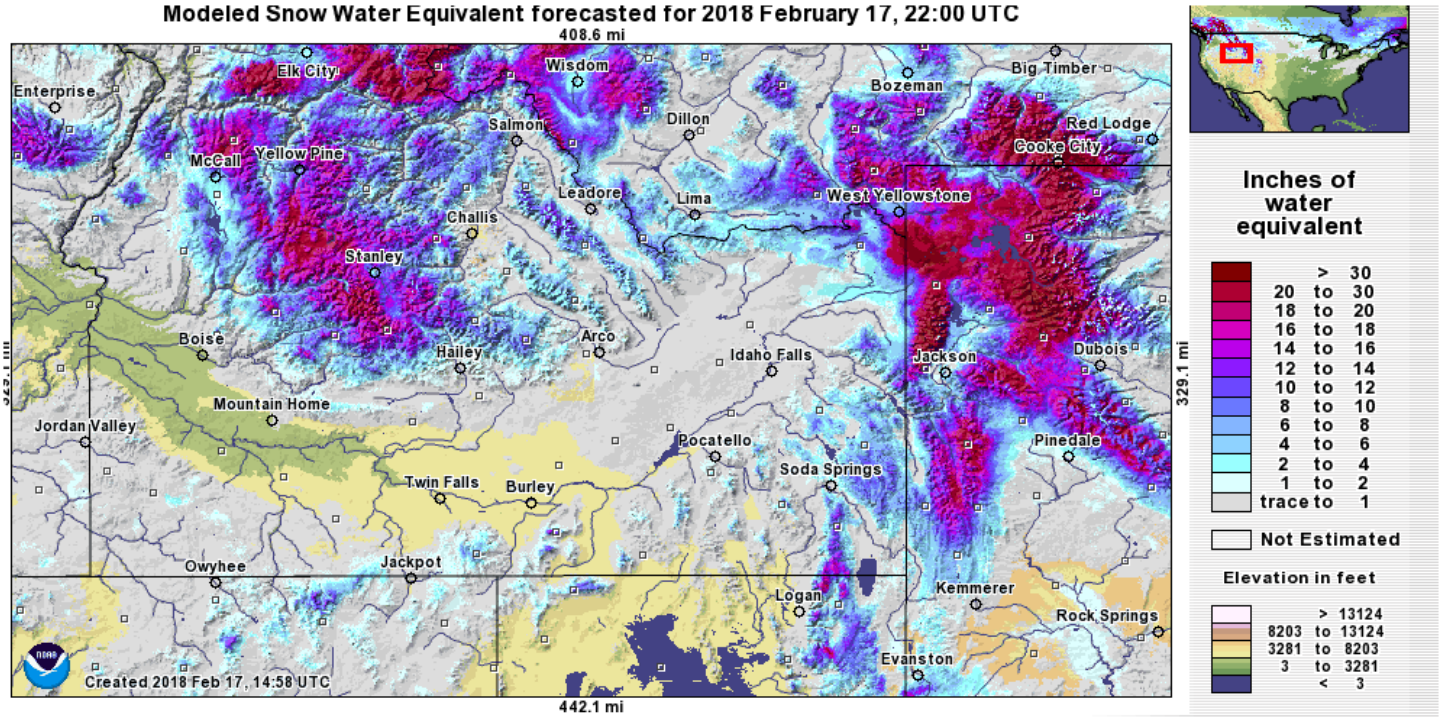
Generated 2/10/2018 at HPRCC using provisional data. NOAA Regional Climate Centers

http://www.hprcc.unl.edu/maps.php?map=ACISClimateMaps

Most of our area received received below normal precipitation, with most of the area receiving 25 to 90 perecent of normal precipitation. Our extreme Northwest and Northeast corners as well as the Eastern Magic Valley received 90 to 150 percent of normal.

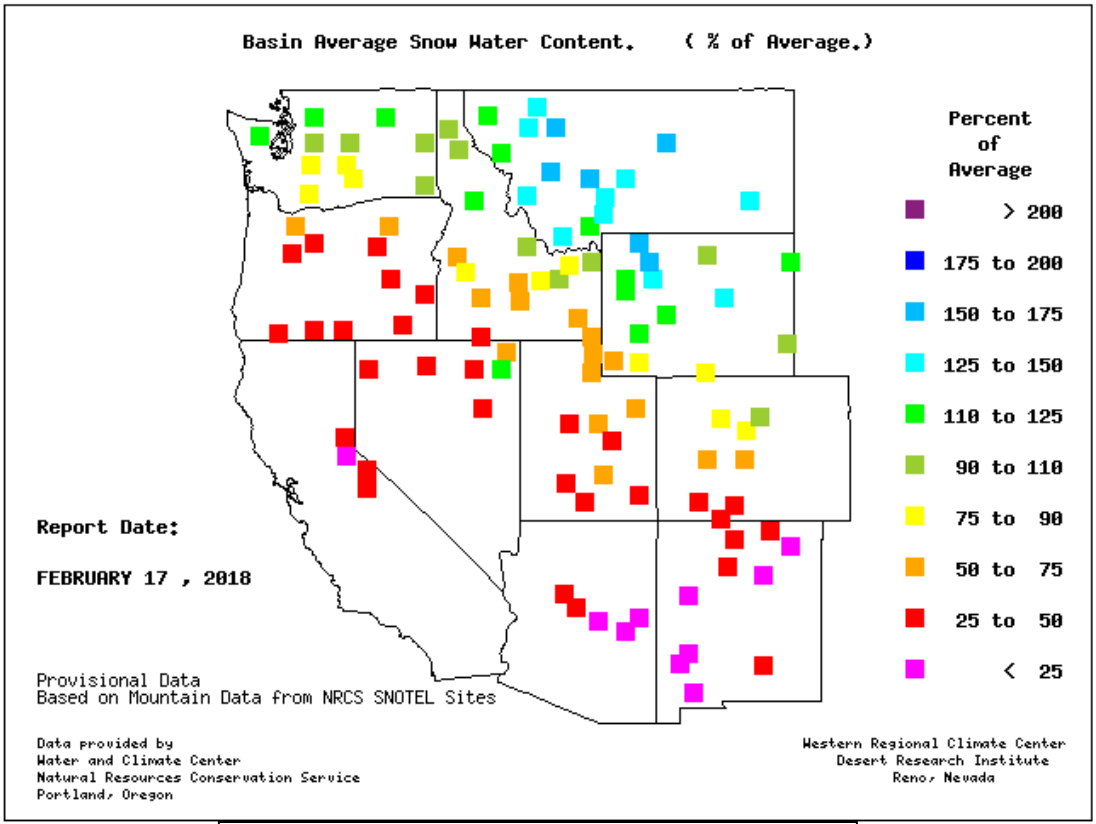


https://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_swepctnormal_update.pdf



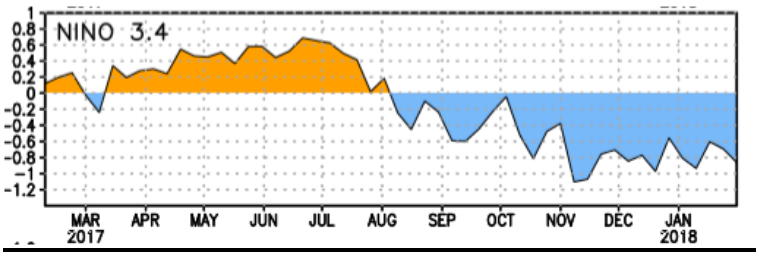
http://www.nohrsc.noaa.gov/interactive/html/map.html

SNOTEL - River Basin Snow Water Content



www.wrcc.dri.edu/snotelanom/basinswe.html

ENSO Update:



Latest Observed SST Departure:
Niño 3.4 ~ -0.9 Deg C

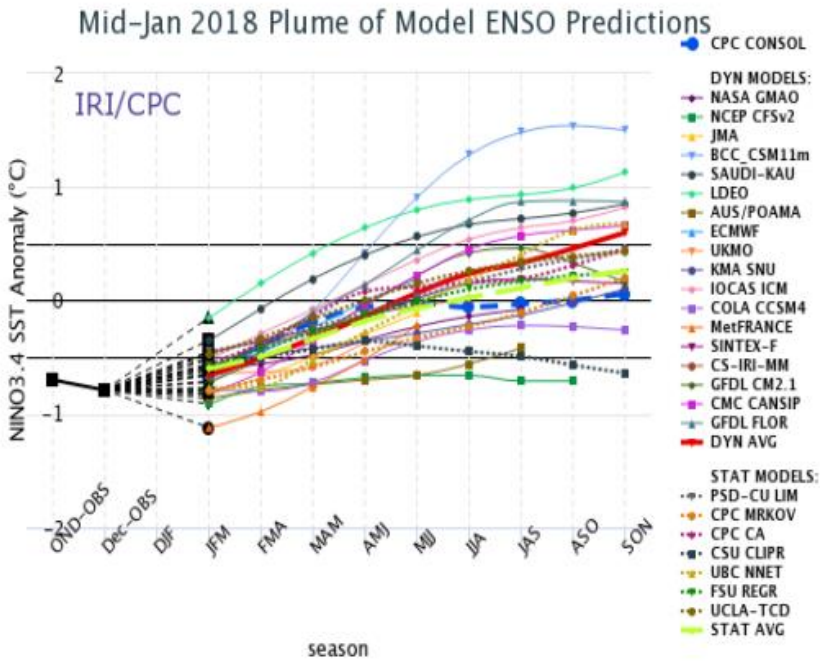


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 18 January 2018).

http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/enso.shtml#discussion

CPC Synopsis: La Nina conditions are present. A transition from La Nina to ENSO-neutral is most likely during the Northern Hemisphere spring (~55% chance of ENSO-neutral during the March-May season).

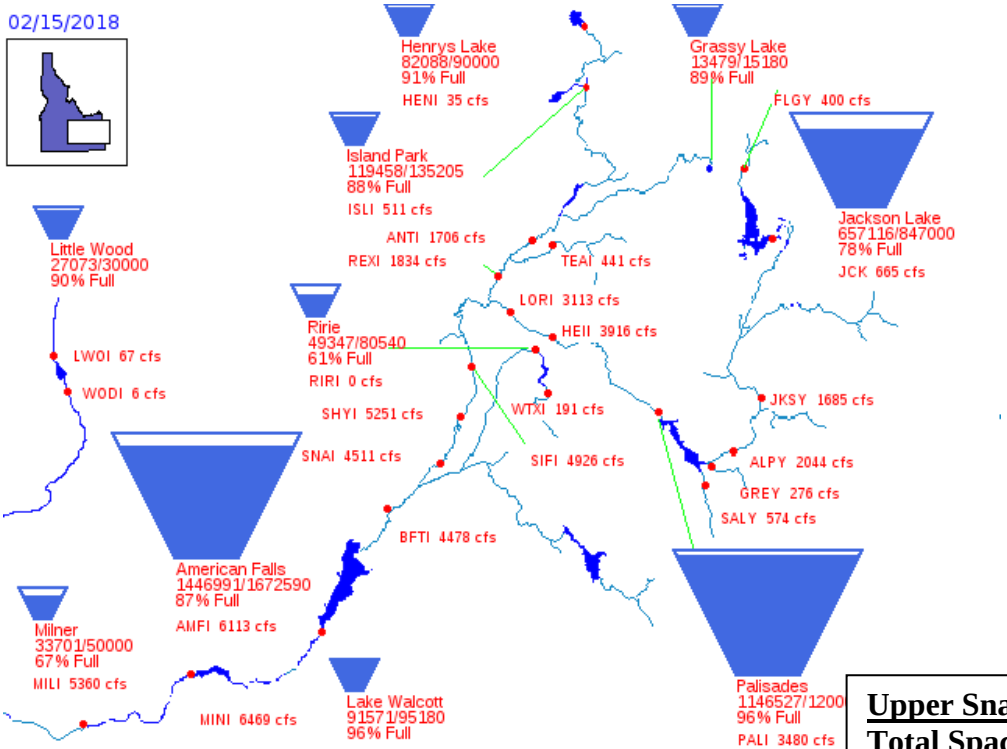
Note: Equatorial sea surface temperatures (SSTs) are below average across the central and eastern Pacific Ocean. An active Madden-Julian Oscillation (MJO) continues as its enhanced phase propagates over the eastern Pacific. The convectively (suppressed) phase of the MJO envelope is passing over the equatorial Date Line (Indian Ocean) leading to a reduction in positive (negative) OLR anomalies. The GEFS forecasts the MJO to weaken and stall as an equatorial Rossby wave propagates westward from the Date Line, interfering with the MJO signal. The Pacific Decadal Oscillation (PDO) has switched to slightly positive, 0.24.

Reservoirs:

Reservoir	% Capacity December 31[1]	% Capacity January 31[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Jackson Lake	77	78	+1	152	129
Palisades	97	97	0	148	70
Henrys Lake	91	91	0	103	103
Island Park	88	89	+1	120	88
Grassy Lake	86	88	+2	112	118
Ririe	54	58	+4	122	125
Blackfoot	78	81	+3	154	125
American Falls	86	86	0	129	100
Mackay	76	77	+1	131	148
Little Wood	71	84	+13	154	145
Magic	79	84	+5	232	127
Oakley	44	47	+3	157	81
Bear Lake	80	78	-2	173	84
Lake Walcott	96[3]	96[4]	0	n/a	n/a
Milner	68[3]	67[4]	-1	n/a	n/a

Source: (1) NRCS December 31, 2017; (2) NRCS January 31, 2018.
(3) US Bureau of Reclamation (BOR) Jan 13, 2018 (4) BOR Feb 15, 2018

https://www.wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_2_2018.pdf

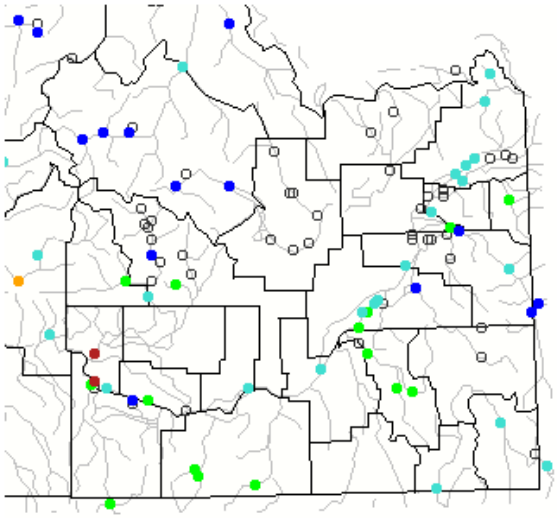


www.usbr.gov/pn/hydromet/burtea.html

87% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

Upper Snake River:
Total Space Available: 521,206 AF
Total Storage Capacity: 4,045,695 AF

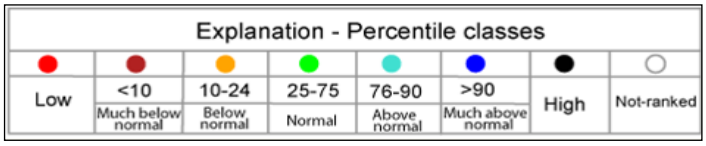
Streamflow:



Monthly average streamflow compared to historical average streamflow for January 2018.

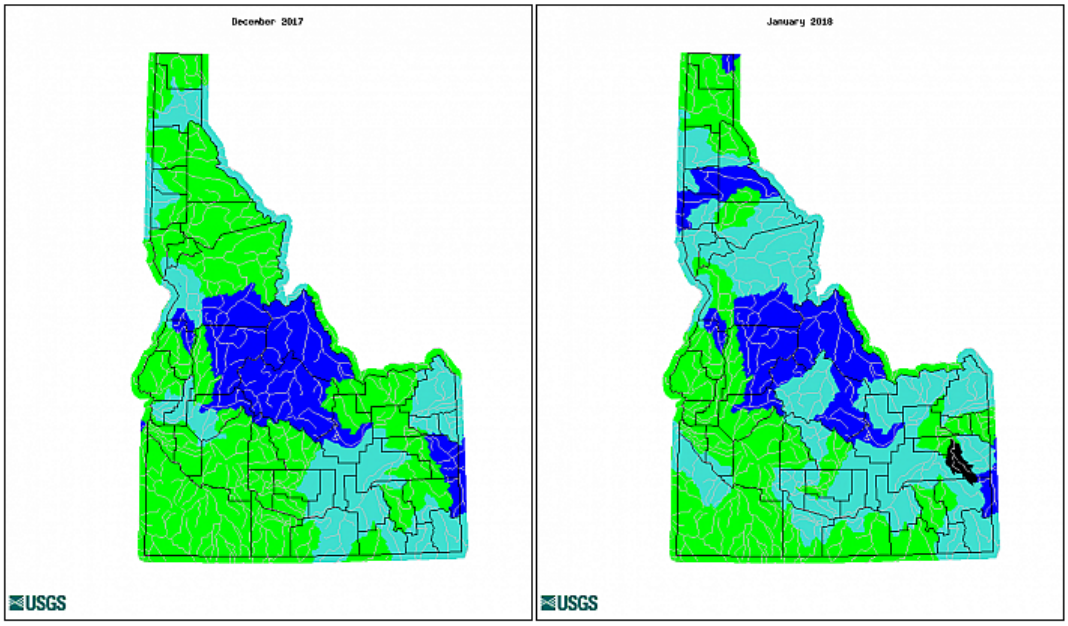
USGS

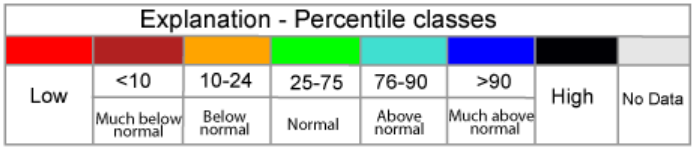
https://waterwatch.usgs.gov/index.php?r=id&id=mv01d



Date (YYYYMM): 201712

Date (YYYYMM): 201801





http://waterwatch.usgs.gov/index.php?id=wwchart_map2

Drought:

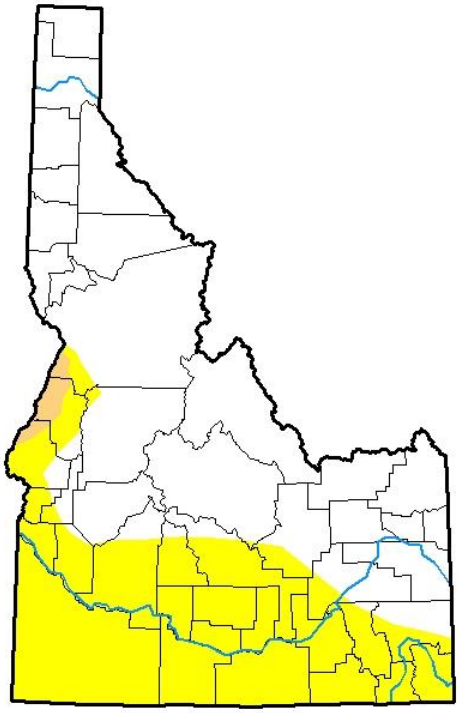
U.S. Drought Monitor

Idaho

February 13, 2018

(Released Thursday, Feb. 15, 2018)

Valid 7 a.m. EST



Intensity:

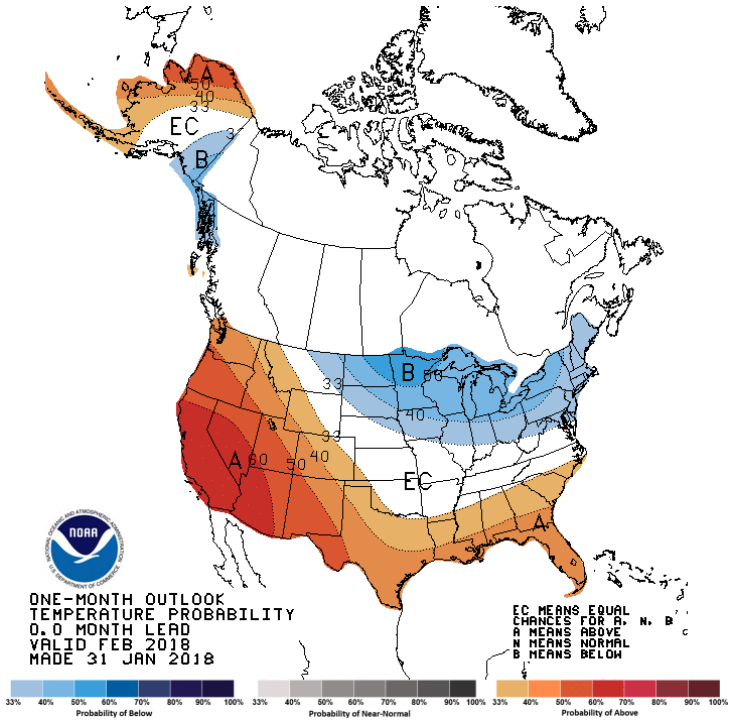
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

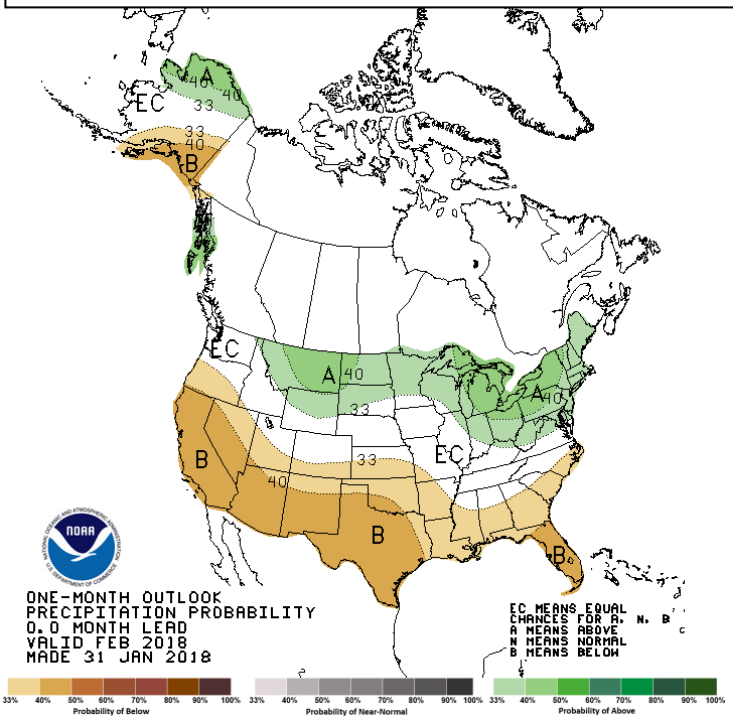
Eric Luebehusen
U.S. Department of Agriculture

http://droughtmonitor.unl.edu/



www.cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif

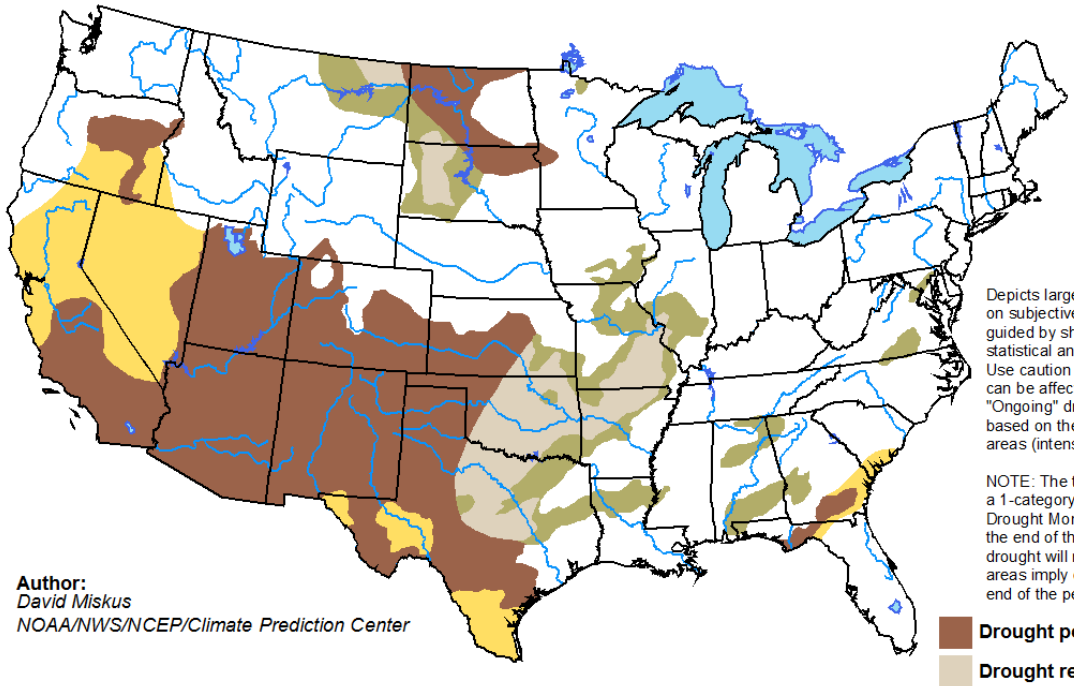
www.cpc.ncep.noaa.gov/products/predictions/30day/off15_prcp.gif



U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for February 15 - May 31, 2018
Released February 15, 2018

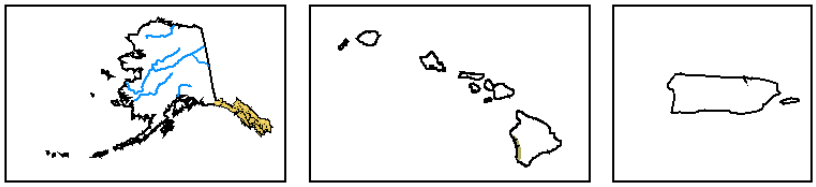


Author:
David Miskus
NOAA/NWS/NCEP/Climate Prediction Center

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- **Drought persists**
- **Drought remains but improves**
- **Drought removal likely**
- **Drought development likely**



http://go.usa.gov/3eZ73

www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

cc:

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Brent Bernard, Hydrologist, Colorado Basin River Forecast Center
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PIH Mets/HMT (pih.ops)

End

tw